IIR - Isobutylene Isoprene Rubber, Butyl, Bromobutyl, Chlorobutyl Rubber

Hardness Range 40 to 90 Durometer Shore A
Temperature Range - 60º C to + 130º C

Advantages in performance…

- for flex cracking resistance and vibration dampening.
- in dilute acids, concentrated acids, alcohols, dilute alkalis, concentrated alkalis, animal & vegetable oils, alkyl phosphate esters, aryl phosphate esters, and certain ketones.
- for ozone resistance, oxidation resistance, steam resistance, sunlight resistance, weather resistance, and water resistance.

Limitations in performance…

- in diester oils, ethers, aliphatic hydrocarbon fuels, aromatic hydrocarbon fuels, extended or oxygenated fuels, halognenated solvents, halogenated hydrocarbons, certain ketones, LP gases & fuel oils, mineral oils, aromatic & non-aromatic petroleum products, refrigerant halofluorocarbons with oil, silicone oil, and selected solvents.
- for flame resistance and radiation resistance.

Rubber Material Selection Guide IIR or Butyl Isobutylene Isoprene Rubber

- Abbreviation IIR
- ASTM D-2000 Classification AA, BA, CA
- Chemical Definition Isobutylene Isoprene

♦ Physical & Mechanical Properties

Durometer or Hardness Range	40 – 90 Shore A
Tensile Strength Range	500 – 3,000 PSI
Elongation (Range %)	300 % – 850 %
Abrasion Resistance	Fair to Good
Adhesion to Metal	Good
Adhesion to Rigid Materials	Fair to Good
Compression Set	Fair to Good
Flex Cracking Resistance	Good to Excellent
Impact Resistance	Good
Resilience / Rebound	Fair to Good
Tear Resistance	Good
Vibration Dampening	Excellent

♦ **Chemical Resistance**

• Acids, Dilute	Good to Excellent
• Acids, Concentrated	Fair to Excellent
• Acids, Organic (Dilute)	Good
• Acids, Organic (Concentrated)	Fair to Good

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♦ **Chemical Resistance**

• Acids, Inorganic	Good
• Alcohol's	Good to Excellent
• Aldehydes	Good
• Alkalies, Dilute	Good to Excellent
• Alkalies, Concentrated	Good to Excellent
• Amines	Good
• Animal & Vegetable Oils	Good to Excellent
• Brake Fluids, Non-Petroleum Based	Good
• Diester Oils	Poor to Good
• Esters, Alkyl Phosphate	Good to Excellent
• Esters, Aryl Phosphate	Excellent
• Ethers	Poor to Fair
• Fuel, Aliphatic Hydrocarbon	Poor
• Fuel, Aromatic Hydrocarbon	Poor
• Fuel, Extended (Oxygenated)	Poor
• Halogenated Solvents	Poor
• Hydrocarbon, Halogenated	Poor
• Ketones	Poor to Excellent
• Lacquer Solvents	Fair to Good
• LP Gases & Fuel Oils	Poor
• Mineral Oils	Poor
• Oil Resistance	Poor
• Petroleum Aromatic	Poor
• Petroleum Non-Aromatic	Poor
• Refrigerant Ammonia	Good
• Refrigerant Halofluorocarbons	R-12, R-13
• Refrigerant Halofluorocarbons w/ Oil	Poor
• Silicone Oil	Poor
• Solvent Resistance	Poor

Rubber Material Selection Guide IIR or Butyl Isobutylene Isoprene Rubber

♦ Environmental Performance

• Colorability	Good
• Flame Resistance	Poor
• Gas Permeability	Good
• Odor	Good
• Ozone Resistance	Excellent
• Oxidation Resistance	Excellent
• Radiation Resistance	Poor to Good
• Steam Resistance	Good to Excellent
• Sunlight Resistance	Excellent
• Taste Retention	Fair to Good
• Weather Resistance	Excellent
• Water Resistance	Good to Excellent

For assistance in identifying the appropriate polymer or material, or to develop and formulate an IIR / butyl rubber compound to meet your specific application and performance requirements, please contact ILGA S.R.L at e-mail: ilga@ilgagomma.com or phone: +39 0456336521 / 0456336514.